

**AN EXPERIMENTAL INVESTIGATION OF THE
MAGNETO-RAYLEIGH-TAYLOR INSTABILITY
USING THIN FOILS DRIVEN BY A 1-MA LTD***

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Foils may soon become necessary to achieve the required mass for higher current-driven x-ray sources. They may also offer useful options for x-ray pulse shaping and as imploding liners for magnetized target fusion. This paper reports our latest design and experimental progress on the dominant instability, the magneto-Rayleigh-Taylor instability (MRT). Planar Al foils as thin as 400 nm driven by the 1-MA linear transformer driver (LTD), MAIZE, at the University of Michigan, are used as the dynamic loads for this investigation. Sub-nanosecond laser backlighting and spectroscopy diagnostic deployment, transmission line and load hardware, inductance considerations, and experimental progress will be presented along with MRT theory.

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